

# TENTATIVE PROGRAMME

## World's Grain Exhibition and Conference

Regina, Saskatchewan, July 24—August 4

The following preliminary programme of the Conference has been prepared especially for the convenience of speakers and delegates who wish to arrange itineraries to include those sections of most interest to themselves. There will undoubtedly be minor revisions, but in the main the committee will adhere to the programme as outlined. Foreign papers will be added as received. It is expected that all men listed will be present except those indicated by a star.

Open sessions of the Conference will be held mornings in the Armouries adjoining the Exhibition Building. Technical sessions will be held afternoons in Regina College and are also open to the public. Technical sessions of the Conference are joint sessions with the following organizations:

- Canadian Society of Technical Agriculturists
- Western Canadian Society of Agronomy
- Canadian Society of Agricultural Economics
- Canadian Phytopathological Society
- Canadian Society of Animal Production—Western Section
- International Great Plains Crop Pest Committee
- Agricultural Engineering Group of the C.S.T.A.
- Soils Group of the C.S.T.A.
- Horticultural Group of the C.S.T.A.
- Cereal Chemistry Section

For further information regarding the programme address mail to reach Ottawa previous to July 12th, to:

H. L. Trueman,  
Canadian Society of Technical Agriculturists,  
Box 625, Ottawa, Canada.

After July 12th address correspondence to H. L. Trueman at Box 100, Regina, Saskatchewan.

For hotel or residence accommodation address:

Accommodation Bureau,  
World's Grain Exhibition and Conference,  
Box, 100, Regina, Saskatchewan.

General information regarding the Exhibition and Conference may be secured from

Ernest Rhoades, Secretary,  
World's Grain Exhibition and Conference,  
Box, 100 Regina, Saskatchewan.

## **FRIDAY, JULY 21st**

### **BUSINESS SESSION**

#### **CANADIAN SEED GROWERS' ASSOCIATION**

9.30 p.m. Friday, July 21

1. Address of Welcome—Hon. W. C. Buckle, Minister of Agriculture for Saskatchewan.
2. Annual Business Meeting.

1.30 p.m. Friday, July 21

1. Report of Plant Breeders' Committee.

9.00 a.m. Saturday, July 22

1. Discussion arising out of Reports of Plant Breeders' Committee.

2.00 p.m. Saturday, July 22

1. Report of Convention Committees, Unfinished Business, Election of Officers and New Business.

## **MONDAY, JULY 24th**

### **BUSINESS SESSION**

#### **CANADIAN SOCIETY OF TECHNICAL AGRICULTURISTS**

9.30 a.m. Monday July 24

1. Report of General Secretary.
2. Report of C.S.T.A. Committee on Research.  
Discussion of research co-ordination by prominent British, United States and Canadian authorities.

2.00 p.m. Monday, July 24

3. Appointment of C.S.T.A. Convention Committees.
4. Report of C.S.T.A. Committee on Education and Extension.  
Discussion leaders as above.

8.15 p.m. Monday, July 24

5. Illustrated lecture. The Mechanization of Agriculture in Russia. E. J. Stirnman, Consulting Engineer, Brooklyn, Iowa.

## **TUESDAY, JULY 25th**

### **MORNING**

#### **OFFICIAL OPENING**

#### **WORLD'S GRAIN EXHIBITION AND CONFERENCE**

11.00 a.m. July 25

Chairman:—Hon. Robt. Weir

Vice-Chairman:—Hon. W. R. Motherwell

Conference Officially Opened By:

Representative of the Dominion Government

Speakers:—Ambassadors, Consuls or Delegates from United Kingdom, Dominions, and other Participating Countries.

### **AFTERNOON**

#### **FERTILIZERS**

#### **(SOILS, AGRONOMY, AND CEREAL CHEMISTRY SECTIONS)**

1.30 p.m. Tuesday, July 25

1. Determining the Fertilizer Needs of the Soil by Chemical Analysis. E. Truog, University of Wisconsin, Madison, Wisconsin.
2. Rothamsted Experiments on the Growth of Wheat. Sir John Russell, Rothamsted Experiment Station, Harpenden, Herts, England.
3. Role of Micro-organisms in the Liberation and Immobilization of Soil Nitrogen. Selman A. Waksman, Exp. Station, New Brunswick, New Jersey.
4. The Role of Nitrogen in Wheat Production. P. L. Gainey, Soil Bacteriologist, Kansas State College, Manhattan, Kansas.
5. Possibilities of the Use of Nitrogen on Small Grains and Grasses. F. E. Bear, American Cyanamid Company, New York.

**ECONOMICS OF MECHANIZATION**  
**(ECONOMICS AND ENGINEERING SECTIONS)**

1.30 p.m. Tuesday, July 25

1. Economics of Power used in Large and Small Units. E. A. Starch, Bozeman, Montana.
2. Combine Investigations with Wheat and Oat Varieties. H. K. Wilson, University of Minnesota, St. Paul, Minn.
3. The Real Effects of Mechanization on Wheat Production. Leonard J. Fletcher, Caterpillar Tractor Company, Peoria, Ill.
4. Mechanization of Agriculture in Russia. E. J. Stirnaman, Consulting Engineer, Brooklyn, Iowa.
5. Economic Effect of Mechanization in Wheat Production. J. F. Booth, Commissioner Agricultural Economics Branch, Ottawa.
6. Future Developments in Wheat Growing. J. E. Newman\* Oxford Univ., Eng.

**PLANT DISEASES—MISCELLANEOUS**  
**(PHYTOPATHOLOGY SECTION)**

1.30 p.m. Tuesday, July 25

1. Species of *Fusarium* Isolated From Field Crops in Manitoba. W. L. Gordon, Dominion Rust Research Laboratory, Winnipeg, Man.
2. Observations on the "Brown Heart" Disease of Turnips. R. R. Hurst, Dominion Experimental Farm, Charlottetown, P.E.I.
3. Soil Treatment in the Control of Certain Potato and Turnip Diseases. D. J. MacLeod, Dominion Experimental Farm, Fredericton, N.B.
4. Toxin Formation by Species of *Pythium* parasitic on Wheat. T. C. Vanterpool, Prof. of Biology, University of Saskatchewan, Saskatoon, Sask.
5. The Formation of Wound Cork in Roots of *Medicago* and *Melilotus* in Relation to Disease Development. M. W. Cormack, Dominion Laboratory of Plant Pathology, Edmonton, Alberta.
6. Microscopic Characters of the "Black Point" Disease of Wheat. J. T. Dastur,\* Central Provinces, India.

**GRASSHOPPERS—BIOLOGY AND RESEARCH**  
**(ENTOMOLOGY SECTION)**

1.30 p.m. Tuesday, July 25

1. Factors Largely Responsible for Years of Grasshopper Abundance. J. R. Parker, U.S. Bureau of Entomology Laboratory, Bozeman, Montana.
2. The Biology of Grasshoppers of the Canadian Prairies. Norman Criddle (obit). Entomological Branch Laboratory, Treesbank, Manitoba.
3. The Bionomics of Range Infesting Grasshoppers in British Columbia. E. R. Buckell and J. C. Spencer, Entomological Branch Laboratory, Vernon, British Columbia.
4. Grasshopper Paper. A. V. Mitchener, Manitoba Agricultural College, Winnipeg, Manitoba.

**SEED IMPROVEMENT**  
**(AGRONOMY SECTION)**

3.00 p.m. Tuesday, July 25

1. Some observations Regarding the Awards at the World's Grain Exhibition. L. H. Newman, Dominion Cerealists, Central Experimental Farm, Ottawa, Ontario.
2. Canadian Seed Supply from Inspected Seed Crops—An Important Factor in Crop Improvement. G. H. Clark, Dominion Seed Commissioner, Ottawa, Ontario.

**WEDNESDAY, JULY 26th**

**MORNING**

**OPEN SESSION—9.30 A.M. THE PRESENT WORLD WHEAT SITUATION AND TRENDS.**

1. Present World Wheat Situation and Prospects. W. Sanford Evans, The W. Sanford Evans Statistical Service, Winnipeg, Manitoba.

2. Trends in Wheat Acreages. T. W. Grindley, Chief, Agricultural Branch, Dominion Bureau of Statistics, Ottawa, Canada.

Discussion led by:

Winnipeg Grain Exchange and representatives from other countries participating in the Conference.

#### CEREAL BREEDING

(AGRONOMY AND PHYTOPATHOLOGY SECTIONS)

9.30 a.m. Wednesday, July 26

1. Breeding of Wheat for Resistance to Bunt, or Stinking Smut. O. S. Aamodt, Prof. of Plant Breeding, University of Alberta, Edmonton, Alberta.
2. Breeding Disease-resistant Varieties of Cereals. C. H. Goulden, Dominion Rust Research Laboratory, Winnipeg, Manitoba.
3. Inheritance of Stem Rust and Bunt Reactions in Spring Wheat Crosses. J. A. Clark, Bureau of Plant Industry, Washington, D.C.
4. Cereal Disease Forecasting. J. B. Humphrey, Bureau of Plant Industry, Washington, D.C.
5. Co-operative Grain Research in Western Canada. R. Newton, National Research Council, Ottawa.

#### ENGINEERING—MISCELLANEOUS

(ENGINEERING SECTION)

9.30 a.m. Wednesday, July 26

1. Agricultural Engineering Research. S. H. McCrory, U.S. Bureau of Agricultural Engineering, Washington, D.C.
2. Can We Improve Our Teaching Methods? J. MacGregor Smith, University of Alberta, Edmonton, Alberta.
3. Business Items.

#### AFTERNOON

##### CEREAL BREEDING

(AGRONOMY AND PHYTOPATHOLOGY SECTIONS)

1.30 p.m. Wednesday, July 26

1. The Possibilities of Modern Corn Breeding. T. A. Keisselbach, University of Nebraska, Lincoln, Nebraska.
2. The Meaning of Genetics for Plant Breeding. R. A. Brink, University of Wisconsin, Madison, Wisconsin.
3. Why Wheat Varieties Differ in Grain Yielding Capacities. W. F. Gericke, University of California, Berkeley, California.
4. Relation of the Bio-Chemist to Cereal Breeding. C. H. Bailey, University Farm, St. Paul, Minn.
5. Inheritance in Oats, with Special Reference to Striped Leaves. Wm. Robb, Scottish Society for Research in Plant Breeding, Corstorphine, Scotland.

##### SOIL CLASSIFICATION AND FERTILIZERS

(SOILS SECTION)

1.30 p.m. Wednesday, July 26

1. Title to be Submitted. Sir Daniel Hall, Director John Innis Horticultural Institute, London, England.
2. Adaptations and Limitations of Saskatchewan Soil Types as Grain Producers. A. H. Joel, University of Saskatchewan, Saskatoon, Saskatchewan.
3. Podsolc Associates of Northern Chernozem Soils in Manitoba. J. H. Ellis, University of Manitoba, Winnipeg, Manitoba.
4. The Effect of Fertilizers on the Yield and Composition of Crops from the Wooded Soils of Alberta. R. E. McAllister, University of Alberta, Edmonton, Alberta.
5. Use of Phosphates in Western Canada. R. E. Neidig, Consolidated Mining and Smelting Company, Calgary, Alberta.
6. Fertilizer Experiments on Rice in Siam. W. R. S. Ladell\*, Chief Div. of Chem. Siam, presented by Capt. Watson-Armstrong, Consul General for Siam in Canada.

7. Some Characters of Southern Quebec Podsols. R. R. McKibbin, Macdonald College, P.Q.
8. Study of Strains of the Rhizobia with Particular Reference to the Bacteriophage. D. G. Laird, University of British Columbia, Vancouver, B.C.

ECONOMICS—MISCELLANEOUS  
(ECONOMICS SECTION)

1.30 p.m. Wednesday, July 26

1. The Work of the Pioneer Problems Committee.
2. Farm Tenancy in Western Canada. Andrew Stewart, Manitoba Agricultural College, Winnipeg, Manitoba.
3. Mal-adjustments and Adjustments in Modern Farming. H. D. Leppan,\* South Africa.
4. Business Items.

GRASSHOPPERS—ORGANIZATION OF CONTROL CAMPAIGNS  
(ENTOMOLOGY SECTION)

1.30 p.m. Wednesday, July 26

1. Organization of Grasshopper Control Campaigns on the Canadian Prairies. E. L. Wood, Assistant Director of Extension, Manitoba Department of Agriculture, Winnipeg, Manitoba.
2. Organization of Grasshopper Control Campaigns in the United States. A. G. Ruggles, State Entomologist, University Farm, St. Paul, Minn.
3. Discussion:
  - (a) Control Campaigns 1930-33 in Saskatchewan. S. H. Vigor, Field Crops Commissioner, Saskatchewan Department of Agriculture, Regina, Saskatchewan.
  - (b) Control Campaigns 1930-33 in Alberta. E. L. Gray, Field Crops Commissioner, Alberta Department of Agriculture, Edmonton, Alta.
  - (c) Control Campaigns in British Columbia. E. R. Buckell, Entomological Branch Laboratory, Vernon, B.C.

FARM POWER  
(ENGINEERING SECTION)

1.30 p.m. Wednesday, July 26

1. Hitches Used in Grain Growing Sections. Prof. H. E. Murdock, Montana Agricultural College, Bozeman.
2. Tillage for Grain Crops in Saskatchewan. J. G. Taggart, Superintendent, Dominion Experiment Station, Swift Current, Saskatchewan.
3. Power on the Farm. G. G. Pearce, J. I. Case Tractor Company.
4. Tractor Power in Relation to Agriculture. G. D. Jones, Cleveland Tractor Company.
5. Burning Heavy Fuels in the Farm Tractor. Prof. E. A. Hardy, University of Saskatchewan, Saskatoon, Saskatchewan.

**THURSDAY, JULY 27th**

MORNING

OPEN SESSIONS—9.30 A.M. WORLD IMPORT CEREAL REQUIREMENTS.

1. Problem of World's Wheat Surplus. J. D. Bromhall, (New York Office) Corn Exchange, Liverpool, England.
2. The Wheat Problem of Russia. V. P. Timoshenko, Lecturer in Statistics and Economics, University of Michigan, U.S.A.
3. World's Import Cereal Requirements. Sir Albert Humphries, Coxes Lock Mills, Weybridge, Surrey England.
4. Changes in the International Wheat Market since the War. Dr. Schindler,\* Deutscher Landwirtschaftsrat, Berlin, Germany.

Discussion led by:

Representative of the International Institute, Rome, and representatives from other countries participating in the Conference.

PLANT BREEDING  
(AGRONOMY SECTION)

9.30 a.m. Thursday, July 27

1. The Anatomy of the Corn Plant. T. A. Kiesselbach, University of Nebraska, Lincoln, Nebraska.
2. The Fatuoid and Speltoid Problem. C. Leonard Huskins,\* McGill University, Montreal, Quebec.
3. Round-table Discussion on Horticultural Problems. Sir Daniel Hall, John Innis, Hort. Inst., London, England.

AFTERNOON

FORAGE CROP BREEDING  
(AGRONOMY SECTION)

1.30 p.m. Thursday, July 27

1. Alfalfa Breeding for Seed Production. L. E. Kirk, Dominion Agrostologist, Ottawa, Ontario.
2. Pasture Improvement in North Eastern America through the Utilization of Improved Strains of Grasses and Clovers. O. McConkey, Ontario Agricultural College, Guelph, Ontario.
3. Winter Hardiness in Plants. H. B. Harvey, Plant Physiologist, University Farm, St. Paul, Minn.
4. World Trade in Herbage Seeds—The Importance of Strain. R. G. Stapledon,\* Director, Welsh Plant Breeding Station, Aberystwyth, Wales.
5. Development of Soy Bean in Canada. W. J. Squirrell, Ontario Agricultural College, Guelph, Ontario.

FARM MACHINERY  
(ENGINEERING SECTION)

1.30 p.m. Thursday, July 27

1. Economic Aspects and Controllable Factors in Tillage Operations. G. N. Thomson, Cockshutt, Plow Company, Brantford, Ontario.
2. The History of the Plow and Its Effect on Civilization. H. E. Linde, Deere and Company, Moline, Ill.
3. Seeding Wheat in Furrows. W. C. Andreas, Dempster Mill Manufacturing Co., Beatrice, Nebraska.
4. Deep Furrow Drill. H. D. Dinneen, Minneapolis-Moline Power Imp., Co., Minneapolis, Minn.
5. Seeding Machinery. W. L. Braley, Chief Engineer, Oliver Farm Equipment Company, Chicago, Ill.

QUALITY OF WORLD WHEATS  
(CEREAL CHEMIST SECTION)

1.30 p.m. Thursday, July 27

1. Quality of World Wheat from the Standpoint of the British Miller. Sir Albert Humphries, Coxes Lock Mills, England.
2. Quality in Wheat. C. O. Swanson, Kansas State College, Manhattan, Kansas.
3. Milling and Baking Qualities of Canadian Wheat. J. H. Monson, Robin Hood Mills, Moose Jaw, Saskatchewan.
4. Roumanian Wheats, Their Milling and Baking Qualities. D. Andronesco,\* Laboratory of Plant Breeding, Bucharest.
5. New Directions of Hungarian Wheat Production. Jenoe Hankoczy,\* Royal Hungarian Grain and Flour Research Sta., Budapest, presented by Stephen J. Scheffbeck, Royal Hungarian Consul, Winnipeg, Manitoba.

RUSTS AND SMUTS  
(PHYTOPATHOLOGY SECTION)

1.30 p.m. Thursday, July 27

1. Hybridization between *Puccinia graminis tritici* and *P. graminis avenae*. R. Newton, T. Johnson and A. M. Brown. Rust Res. Lab., Winnipeg.

2. Field Experiments on the Prevention of Cereal Rusts by Sulphur Dusting (1930-1932). F. J. Greaney, Dominion Rust Research Laboratory, Winnipeg, Manitoba.
3. A Preliminary Study of the Reactions to Stem Rust of Certain Wheat Varieties in Different Stages of Development. W. Popp, Dominion Rust Research Laboratory, Winnipeg, Manitoba.
4. A Method of Estimating Losses from Cereal Rusts. F. J. Greaney.
5. Experiments on the Control of Loose Smut of Wheat by Seed Treatments. W. F. Hanna and W. Popp.
6. Studies on the Physiology of the Oat Smuts. W. Popp and W. F. Hanna.
7. Studies on the Temperature and Host Relations of *Ustilago bromivora* (Tul.) Fisch. Causing Smut of *Agropyron* Species. G. W. Padwick and A. W. Henry, University of Alberta, Edmonton, Alberta.

#### CUTWORMS, CORN BORERS AND MISCELLANEOUS (ENTOMOLOGY SECTION)

1.30 p.m. Thursday, July 27

1. The Pale Western Cutworm as a Factor in Prairie Agriculture. H. L. Seamans, Entomological Branch Laboratory, Lethbridge, Alberta.
2. The Influence of Parasites and Diseases upon Pale Western Cutworm Fluctuations. Ellis McMillan and H. L. Seamans, Entomological Branch Laboratory, Lethbridge, Alberta.
3. Predators of the Pale Western Cutworm. L. Paul, Entomological Branch Laboratory, Saskatoon, Saskatchewan, and H. L. Seamans, Entomological Branch Laboratory, Lethbridge, Alberta.
4. The Hessian Fly Problem in the United States. W. H. Larrimer, U.S. Bureau of Entomology, Washington, D.C.
5. The Chinch Bug as a Pest of Corn on the American Continent. W. P. Flint, Chief Entomologist, State Natural History Survey of Illinois, Urbana, Ill.
6. The European Corn Borer. D. J. Caffey, U.S. Bureau of Entomology, Toledo, Ohio.
7. The Control of the European Corn Borer in Canada. G. M. Stirrett and H. G. Crawford, Dominion Entomological Branch.

#### METEOROLOGY

1.30 p.m. Thursday, July 27

1. The Science of Weather Forecasting. J. Patterson, Dominion Meteorological Service, Toronto, Ontario.
2. The Climate of the Mackenzie Basin in Relation to Agriculture. W. D. Albright, Experiment Station, Beaverlodge, Alberta.
3. Forecasting Wheat Production Through Meteorological Records. Major H. G. L. Strange, Searle Grain Company, Winnipeg, Manitoba.
4. Relation of Tree Planting to Soil Drifting. Norman M. Ross, Dominion Experimental Station, Swift Current, Saskatchewan.

### FRIDAY, JULY 28th

#### MORNING

OPEN SESSION—9.30 A.M. FORMS OF GOVERNMENT AID TO THE WHEAT INDUSTRY. WORLD WHEAT SURPLUS. IS CONTROLLED PRODUCTION NECESSARY?

1. Epitome of Australian Activities in Connection with the Wheat Industry. Hon. F. H. Stewart, Minister of Commerce, Commonwealth of Australia. Presented by L. R. MacGregor, Australia Trade Commissioner.
2. Wheat Consumption and the Depression. Carl L. Alsberg, Director, Food Research Institute, Stanford University, California.
3. Is Controlled Production Necessary? C. W. Peterson, Farm and Ranch Review, Calgary, Alberta.
4. Governmental Proposals for Production Control and Price Elevation in the U.S.A. M. L. Wilson or C. C. Conser, Department of Agricultural Economics, Montana State College, Bozeman.

Discussion led by:

H. G. L. Strange, Searle Grain Company, Winnipeg, Manitoba, and to include representatives from other countries participating in the Conference.

## BARLEY AND SOFT WHEATS

(CEREAL CHEMISTRY AND AGRONOMY SECTIONS)

9.30 a.m. Friday, July 28

1. The Malting Qualities of Barley. H. Lloyd Hind,\* Director of Research, Institute of Brewing, London.
2. The Factors Affecting Protein Content of Barley. T. J. Harrison, Board of Grain Commissioners, Winnipeg, Manitoba.
3. Quality Requirements of Malting Barley in Western Canada. A. T. Elders, Agronomy Department, University of Manitoba, Winnipeg, Manitoba.
4. The Quality of Soft Winter Wheat as Influenced by Phosphate and Other Soil Treatments. E. G. Bayfield, Ohio Agricultural Experiment Station, Wooster, Ohio.
5. The Evaluation of Quality of Durum Wheat for the Manufacture of Alimentary Pastes. W. F. Geddes, University of Manitoba, Winnipeg, Manitoba.

## INSECT CONTROL

(AGRONOMY AND ENTOMOLOGY SECTIONS)

9.30 a.m. Friday, July 28

1. Fitting Wheat Stem Sawfly Control to Farm Practise. H. L. Seamans, Dominion Entomological Laboratory, Lethbridge, Alberta.
2. Ten Years' Results in the Investigation of Control Measures for Prairie Wireworms. K. M. King, Dominion Entomological Laboratory, Saskatoon, Saskatchewan.

## AFTERNOON

AGRONOMY—MISCELLANEOUS

(AGRONOMY SECTION)

1.30 p.m. Friday, July 28

1. Mechanical Aids to Agronomic Plot Experiments. H. J. Kemp, Dominion Experimental Farm, Swift Current, Saskatchewan.
2. The Distribution and Adaptation of Native and Introduced Species of Grasses and Legumes in the Plains Area of Western Canada. S. E. Clarke, Dominion Range Experimental Station, Manyberries, Alberta.
3. Forage Crop Production in the Park Belt. G. E. DeLong, Dominion Experiment Station, Lacombe, Alberta.

## FARM MACHINERY

(ENGINEERING SECTION)

1.30 p.m. Friday, July 28

1. Australian Harvest Machinery. A. T. Thom, Waterloo Manufacturing Company, Waterloo, Ontario.
2. The Power Binder. Guy Bevan, Chief Engineer, Massey-Harris Company, Toronto, Ontario.
3. Mechanical Weed Control. J. G. Haney, International Harvester Company.
4. The Development of Pneumatic-tired Tractors for Agriculture. Geo .H. Nystrom, Allis Chalmers Manufacturing Company.

## ECONOMIC STATUS OF WHEAT PRODUCERS

(ECONOMICS AND AGRONOMY SECTIONS)

1.30 p.m. Friday, July 28

1. The Economic Status of the American Wheat Producer.
2. The Economic Status of Wheat Production in Western Canada. Dr. Wm Allen, University of Saskatchewan, Saskatoon, Saskatchewan.
3. Wheat Industry in Australia. C. W. Walker,\* Sydney, N.S.W.
4. Practical Wheat Farming in India. G. S. Henderson,\* India.
5. Grain Production in China. R. M. Lewis,\* Department of Botany, University of Toronto, Toronto, Ontario.
6. A Note on Wheat Growing in Egypt. S. P. Morris,\* Ministry of Agriculture, Egypt.



ROOT ROTS  
(PHYTOPATHOLOGY SECTION)

1.30 p.m. Friday, July 28

1. Studies on Foot and Root Rot of Wheat. III. Effect of Crop Rotation and Cultural Practices on the Development of Foot Rot of Wheat. IV. Effect of Crop Rotation and Cultural Practices on Certain Fungi Associated with Foot and Root Rot of Wheat. W. C. Broadfoot, Dominion Laboratory of Plant Pathology, Edmonton, Alberta.
2. Seedling Vigour and Infection by *Helminthosporium sativum*. H. W. Mead, University of Saskatchewan, Saskatoon, Saskatchewan.
3. Studies on the Effect of Environmental Factors on the Pentosans in Wheat Plants in Relation to Root Rot. (A Progress Report). L. E. Tyner.
4. The Influence of Soil Moisture on the Infection of Wheat Seedlings by *Ophiobolus graminis*. R. C. Russell, Dominion Laboratory of Plant Pathology, Saskatoon, Saskatchewan.
5. On Varietal Resistance of *Medicago* and *Melilotus* to Foot Rots caused by *Sclerotinia* sp. and *Plenodomus meliloti*. G. B. Sanford and M. W. Cormack, Dominion Laboratory of Plant Pathology, Edmonton, Alberta.
6. Seedling Damage of Flax caused by *Rhizoctonia solani* and *Pythium debaryanum*. T. C. Vanterpool, University of Saskatchewan, Saskatoon, Saskatchewan.
7. Some Observations on the Growth of Marquis Wheat with special Reference to Root Development. P. M. Simmonds and B. J. Sallans, Dominion Laboratory of Plant Pathology, Saskatoon, Saskatchewan.

MISCELLANEOUS INSECTS AND PESTS  
(ENTOMOLOGY SECTION)

1.30 p.m. Friday, July, 28

1. Bionomics and Control of the Wheat Stem Sawfly on the Open Prairies. H. L. Seamans and G. F. Manson, Entomological Branch Laboratory, Lethbridge, Alberta.
2. A Study of the Effect of Weather on Outbreaks of the Wheat Stem Sawfly. H. L. Seamans, Entomological Branch Laboratory, Lethbridge, Alberta.
3. Our Present Knowledge of the Hairy Spider Beetle (*Ptinum villiger* Reit.) in Canada. H. E. Gray, Entomological Branch Laboratory, Winnipeg, Manitoba.
4. The Biology of Prairie Wireworms. E. L. Strickland, Department of Entomology, University of Alberta, Edmonton, Alberta.
5. A Method of Study for the Prairie Wireworm Problem. K. M. King and R. Olsen, Entomological Branch Laboratory, Saskatoon, Saskatchewan.
6. Recent Progress in the Control of Wireworms. M. C. Lane, United States Bureau of Entomology Laboratory, Walla Walla, Washington.

FACTORS AFFECTING WHEAT QUALITY  
(CEREAL CHEMISTRY AND AGRONOMY SECTIONS)

1.30 p.m. Friday, July 28

1. Factors Influencing the Carotin Content of Hard Red Spring Wheats. A. G. O. Whiteside, Central Experimental Farm, Ottawa, Ontario.
2. New Methods of Harvesting and their relation to Wheat Quality. R. K. Larmour, University of Saskatchewan, Saskatoon, Saskatchewan.
3. Soil and Climate in their Relation to Grain Production. J. G. Lipman, United States Experimental Station, New Brunswick, N.J.
4. The Influence of Environment on Wheat Quality. F. T. Shutt, Dominion Chemist, Ottawa, Ontario.
5. Factors which Influence Development of Proteins in Wheat. J. F. Birchard, Board of Grain Commissioners, Winnipeg, Manitoba.

## MONDAY, JULY 31st

### MORNING

#### OPEN SESSION—9.30 A.M. FINANCING WORLD WHEAT SURPLUSES. ARE CHANGES NEEDED?

1. Forecasting of Future Prices in Wheat Marketing. J. Ralph Pickell, Editor and Director, the Round-Up Inc., Forest Park, Illinois.
2. Paper on Financing of Wheat. B. P. Alley, Asst. Gen. Man. Canadian Bank of Commerce, representing Canadian Bankers' Association.
3. Are Changes in Finance Needed. W. W. Swanson, University of Saskatchewan, Saskatoon, Saskatchewan.

#### Discussion led by:

Representative Grain Trade, Winnipeg, Canadian Banker's Association and representatives from other countries participating in the Conference.

### AFTERNOON

#### SOIL DRIFTING AND SOIL MOISTURE (AGRONOMY, SOILS, AND ENGINEERING SECTIONS)

1.30 p.m. Monday, July 31

1. Soil Drifting. A. E. Palmer, Experimental Station, Lethbridge, Alberta.
2. Cultural Control of Soil Drifting. J. G. Taggart, Superintendent Dominion Experimental Farm, Swift Current, Saskatchewan.
3. Cultural Methods for Wheat on the Dry Lands of the Columbia River Basin. D. E. Stephens, Bureau of Plant Industry, Moro, Oregon.
4. The Utilization of Soil Moisture by Spring Wheat in Western Canada. S. Barnes, Dominion Experimental Farm, Swift Current, Saskatchewan.
5. Irrigation in Its Relation to the Farming Programme of the Canadian Prairies. W. L. Jacobson, Irrigation Specialist, Experimental Farm, Lethbridge, Alberta.

#### ECONOMICS OF ANIMAL PRODUCTION (ECONOMICS AND ANIMAL PRODUCTION SECTIONS)

1.30 p.m. Monday, July 31

1. Live Stock Price Cycles. E. C. Hope, University of Saskatchewan, Saskatoon, Saskatchewan.
2. The Economic Status of the Range Sheep Industry. L. E. Kindt, Agricultural Economics Branch, Ottawa, Ontario.
3. Economic Aspects of the Horse Industry in Western Canada. H. B. Sommerfeld, Colonization Finance Corporation, Yorkton, Saskatchewan.

## TUESDAY, AUGUST 1st

### MORNING

#### OPEN SESSION—9.30 A.M. MERCHANDISING METHODS IN WHEAT MARKETING. CAN IMPROVEMENTS BE EFFECTED?

1. The Place of Grain Dealers in World Merchandising. Representative of the North West Grain Dealers, Winnipeg, Manitoba.
2. International Marketing of Wheat. H. D. Vigor,\* Wheat Commission, London, England.
3. Western Canada Elevator System and its Function in Grain Marketing. H. L. Griffen, Head of Research Department, United Grain Growers, Winnipeg, Manitoba.
4. Co-operative Development in Grain Marketing. L. C. Brouillette, President, Pool Central Selling Agency and President, Saskatchewan Wheat Pool, Regina, Saskatchewan.

#### RANGE MANAGEMENT OF LIVE STOCK (ANIMAL PRODUCTION SECTION)

9.30 a.m. Tuesday, August 1

1. Management of Uncultivated Lands for Livestock Production. G. L. Forsling, Director of Research, Inter-mountain Region, U.S.D.A., Ogden, Utah.
2. Seasonal Variation in Composition and Digestibility of Certain Species of Range and Pasture Grasses. S. E. Clarke, Dominion Range Experiment Station, Manyberries, Alberta.

3. The Production of Livestock on the Range, with Motion Pictures. Geo. G Ross, St. Hilda, Alberta.
4. The Montana Plan of Finishing Cattle. L. Vinke, Montana Agricultural College, Bozeman, Montana.

## AFTERNOON

### LIVE STOCK RESEARCH METHODS (ANIMAL PRODUCTION SECTION)

1.30 p.m. Tuesday, August 1

1. Some Observations on Research Methods in Great Britain. R. D. Sinclair, University of Alberta, Edmonton, Alberta.
2. Planning for a Dairy Cattle Experiment. G. W. Muir, Central Experimental Farm, Ottawa, Ontario.
3. Range Research Methods of the United States Forest Service. W. R. Chapline, Chief, Grazing Studies, U.S.D.A., Washington, D.C.
4. The Use of Statistical Methods in Live Stock Research. C. H. Goulden, Dominion Rust Research Laboratory, Winnipeg, Manitoba.

### CULTURAL METHODS (AGRONOMY SECTION)

1.30 p.m. Tuesday, August 1

1. The Problem of Cereal Yield. F. L. Engledow,\* School of Agriculture, Cambridge.
2. Cultural Methods. A. L. Hallsted, Kansas Experiment Station, Fort Hays, Kansas.
3. Crop Rotation in Relation to Grain Production. H. L. Walster, Agronomist, Agricultural Experiment Station, Fargo, N.D.
4. What Experiments Prove Concerning the Value of Crop Rotation. E. S. Hopkins, Central Experimental Farm, Ottawa, Ontario.
5. Experiments with Intertilled Crops at Saskatoon. Manley Champlin, Department of Field Husbandry, University of Saskatchewan, Saskatoon, Saskatchewan.

## WEDNESDAY, AUGUST 2nd

### MORNING

#### OPEN SESSION—9.30 A.M. MERCHANDISING METHODS IN WHEAT MARKETING. CAN IMPROVEMENTS BE EFFECTED?

1. The Disposal of Wheat. A. H. Hobley, Co-operative Wholesale Society Limited, Liverpool, England.
2. The Place of Producers' Co-operatives in Grain Marketing. D. L. Smith, Winnipeg Pools, Winnipeg, Manitoba.
3. Can Improvements over Present Merchandising Methods be Effected. Bernard W. Snow, Bartlett-Frazier Company, Chicago, Illinois. (nominated by Chicago Grain Exchange.)
4. The Place of the Grain Exchange in World's Wheat Market. A. E. Darby, Secretary, Grain Exchange, Winnipeg, Manitoba.

Discussion led by:

H. L. Leach, Vice-President, Searle Grain Company, Winnipeg, Manitoba.

### AFTERNOON

#### WEED CONTROL (AGRONOMY SECTION)

1.30 p.m. Wednesday, August 2

1. Recent Weed Research in Manitoba. G. P. McRostie, University of Manitoba, Winnipeg, Manitoba.

2. **Relative Competitive Efficiency of Weeds and Cereal Plants.** T. Pavlychenko, Technical Assistant in Weed Research, University of Saskatchewan, Saskatoon, Saskatchewan.
3. **Sodium Chloride as a Herbicide for Perennial Weeds.** W. S. Chepil, Dominion Experimental Farm, Swift Current, Saskatchewan.
4. **The Chemical Control of Annual Weeds in Growing Crops.** G. L. L. Godell, University of Saskatchewan, Saskatoon, Saskatchewan.
5. **Present Status of the Weed Problem in Western Canada.** J. M. Manson, National Research Council, Ottawa, Ontario.

#### ANIMAL PRODUCTION—MISCELLANEOUS

##### (ANIMAL PRODUCTION SECTION)

1.30 p.m. Wednesday, August 2

1. **Environmental Factors Affecting Wool Production.** J. E. Bowstead, University of Alberta, Edmonton, Alberta.
2. **Progress in Research in Contagious Abortion.** L. M. Heath, Veterinary Research Station, Lethbridge, Alberta.
3. **Committee Reports.**

### THURSDAY, AUGUST 3rd

#### MORNING

OPEN SESSION—9.30 A.M. TRANSPORTATION AND STORAGE OF WORLD EXPORT GRAINS. ARE FURTHER ECONOMIES POSSIBLE?

1. **Transportation and Storage of World's Export Grains.** S. T. Smith, President, Winnipeg Grain Exchange, Winnipeg, Manitoba.
2. **Water Carriers and the Grain Trade.** S. C. Cornell, Traffic Manager, Halifax Harbour Commission, Halifax, Nova Scotia.
3. **Australian Transportation and Storage Problems.** L. R. Macgregor for Australian Department of Commerce.

Discussion led by.

D. A. MacGibbon, Board of Grain Commissioners, Winnipeg, Manitoba, and H. C. Schofield, President, St. John Harbour Commissioners.

#### AFTERNOON

OPEN SESSION—2.30 P. M. LIVE STOCK. ITS PLACE IN MARKETING GRAINS IN COUNTRIES OF ORIGIN AND OF IMPORT

1. **Live Stock. Its Place in Marketing Grains.** A. M. Shaw, University of Saskatchewan, Saskatoon, Saskatchewan.
2. **Marketing Grains Through Beef Cattle.** J. P. Sackville, Prof. of Animal Husbandry, University of Alberta, Edmonton, Alberta.
3. **Marketing Grains Through Dairy Cattle.** W. H. Hicks, Superintendent, Experimental Farm, Agassiz, B.C.
4. **Marketing Grains Through Lambs.** A. A. MacMillan, Sheep and Swine Division, Department of Agriculture, Ottawa, Ontario.
5. **Marketing Grains Through Swine.** C. M. Learmonth, Department of Public Works, Weyburn, Saskatchewan.
6. **Marketing Grains Through Poultry.** F. C. Elford, Dominion Poultry Husbandman, Department of Agriculture, Ottawa, Ontario.

### FRIDAY, AUGUST 4th

#### CLOSING SESSION

Chairman:—Hon. Robt. Weir.

Vice-Chairman:—Hon. W. C. Buckle

Chairman's Closing Remarks:

Remarks from Ambassadors Consuls or Delegates from United Kingdom, Dominions, and other participating Countries.

Official Closing of Conference by

His Excellency the Governor-General of Canada.